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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,025	07/20/2006	Naoto Nakamura	127402	4594

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EXAMINER	
WILSON, GREGORY A	

ART UNIT	PAPER NUMBER
3749	

MAIL DATE	DELIVERY MODE
09/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,025	NAKAMURA ET AL.	
	Examiner	Art Unit	
	Gregory A. Wilson	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2006*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/22/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 9 recites the limitation "the supporting strips are configured to support an outer portion of the through hole", however it is unclear how an outer portion of a hole can be supported by the claimed structure and the specification does not provide in full, clear, and concise terms what the intent of the invention is with this regard.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the recesses" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: any steps pertaining to the manufacturing of a substrate. It appears that the claim is directed to a method of processing an already constructed substrate.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by **Shimazu (5,718,574). Shimazu** discloses a heat treatment apparatus (1) having a reactor (4) for treating substrates (w), a supporting tool (13) for supporting a plurality of the substrates in a plurality of stages in the reactor wherein the supporting tool has a plurality of supporting plates (16) that come into contact with the plurality of substrates, a plurality of supporting strips (25) for supporting the plurality of supporting, and the supporting plates and the supporting strips overlap at least partly in a direction of the thickness (SEE Figure 4), recesses (21) are formed on upper surfaces of the supporting strips that come into contact with the back surfaces of the supporting plates (Figure 4), a substrate transfer unit (24) for transferring the substrates to the supporting tool and includes tweezers (24a, SEE Figure 3) for putting the substrates, the tweezers oppose the surface of the recess, the recesses are provided on the supporting strips in a range from the portions that opposes the tweezers when transferring the substrates to ends on a side where the supporting plates are supported, a fitting portion (18) on the supporting plates and the supporting strips are configured to support at least outer peripheral portions of the supporting plates on a substrate insertion side (SEE Figures 4 & 7), the supporting strip has a skeleton structure (framework 15) and the supporting plate has one through hole (23) (SEE Figures 3 & 5) located in the center wherein the supporting strips are configured so as not to overlap at the through hole; the supporting tool further includes a plurality of pillars (which form the skeleton like structure mentioned above) such that the supporting strips are formed integrally with the pillars and the supporting strips and the pillars are formed of Silicon (column 4, lines 20-25). With regards to the

method claim 14, Shimazu discloses structure capable of performing the steps of the disclosed method.

Claims 1-14 rejected under 35 U.S.C. 102(b) as being anticipated by **Osawa (5,820,367).** **Osawa** discloses a heat treatment apparatus including a reactor (6) for treating substrates (w), a supporting tool (3) for supporting a plurality of the substrates, the supporting tool has a plurality of supporting plates (5) that come into contact with the plurality of substrates respectively, a plurality of supporting strips (unnumbered, SEE Figure 4) for supporting the plurality of supporting plates, the supporting plates and the supporting strips overlap in a direction of the thickness (SEE Figure 4), recesses (45) are formed on the surface of the supporting plate (SEE Figure 8), the recesses are formed on the upper surfaces of the supporting strip that come into contact with the back surfaces of the supporting plates (SEE Figure 4), a substrate transfer unit (83) for transferring the substrates to the supporting tool, the substrate transfer unit includes tweezers (SEE Figure 8) for putting the substrates, and wherein the supporting strips (unnumbered) are formed with recesses on the upper surfaces thereof (Figure 4) at portions that oppose the tweezers when transferring the substrates, the recesses are provided on the supporting strips at least in a range from the portions that opposes the tweezers when transferring the substrates to ends on a side where the supporting plates are supported, fitting portion (52) is on the supporting plates and the supporting strips are configured to support at least outer peripheral portions of the supporting plates on a substrate insertion side, the supporting strip has a skeleton structure

(framework 41 & 42) which are pillars formed of silicon (column 4, lines 60-65), the supporting plate includes a through hole at the center of the plate(represented near 72, 76, 81), wherein the supporting strips are configured so as not to overlap with the through hole. With regards to the method claim 14, Osawa discloses structure capable of performing the steps of the disclosed method.

Claims 1-14 rejected under 35 U.S.C. 102(e) as being anticipated by **Nakashima et al (2003/0170583).**

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. Nakashima discloses a heat treatment apparatus (40) having a reactor (42) for treating substrates (68), a supporting tool (30) for supporting a plurality of the substrates, the supporting tool (30) has a plurality of supporting plates (58) that come into contact with the plurality of substrates and a plurality of supporting strips (64) (SEE Figure 6) for supporting the plurality of supporting plates in the plurality of stages, the supporting plates and the supporting strips overlap at least partly in a direction of the thickness (SEE Figure 6), recesses (SEE Figure 8) are formed on the upper surfaces of the supporting strip that come into contact with the back surfaces of the supporting plates, a

substrate transfer unit (26) for transferring the substrates to the supporting tool and the substrate transfer unit includes tweezers (SEE paragraph [0051) for putting the substrates, the supporting strips are formed with recesses on the upper surfaces thereof that oppose the tweezers when transferring the substrates, the recesses are provided on the supporting strips at least in a range from the portions that opposes the tweezers when transferring the substrates to ends on a side where the supporting plates are supported, a fitting portion (70) (SEE Figure 5) for fitting mutually the supporting plate and the supporting strips is provided on the supporting strips, wherein the supporting strips are configured to support at least outer peripheral portions (SEE Figure 6) of the supporting plates on a substrate insertion side, the supporting strip has a skeleton structure (framework 60), wherein the supporting plate includes a cutaway hole (72) positioned in the center of the plate such that the supporting strips do not overlap the hole, the supporting tool further includes a plurality of pillars (38) such that the supporting strips are formed integrally with the pillars so as to connect the plurality of pillars, and the supporting strips and the pillars are formed of silicon (SEE paragraph [0045]). With regards to method claim 14, Nakashima et al discloses structure capable of performing the steps of the disclosed method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. Wilson whose telephone number is (571)272-4882. The examiner can normally be reached on 7 am - 4:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory A. Wilson/
Primary Examiner, Art Unit 3749
September 9, 2008